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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/750,703	Applicant(s) CHANDRASEKAR IYER ET AL.
	Examiner ELIYAH S. HARPER	Art Unit 2166

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 November 2010.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 116-163 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 116-163 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftperson's Patent Drawing Review (PTO-941)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date ____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date ____
- 5) Notice of Informal Patent Application
 6) Other: ____

DETAILED ACTION

Response to Amendment

1. The amendment filed on 11/10/2010 has been entered. Claims 116, 128, 137, 138, 140, 146, 147, 149, 153, 155, 156, and 158 have been amended. No new claims have been added or cancelled. Accordingly, claims 116-163 are pending in this office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 116-162 rejected under 35 U.S.C. 103(a) as being unpatentable over 6,438,542 (hereinafter Koo) in view of US 6523028 (hereinafter DiDomizio)..

As for claim 116 Koo discloses: The first table and the second table are stored in a computer-readable storage medium of the computer system, the automatically

generating uses a relationship between the first table and the second table to generate the set of SQL statements, and the set of SQL statements comprises SQL statements other than the at least one SQL statement producing a first result set by querying the first table using the set of SQL statements (See column 5 lines 20-30);

wherein the querying the first table is performed using the processor producing a second result set by querying the second table using the set of SQL statements, wherein the querying the first table is performing using the processor querying the second table using the set of SQL statements to produce a second result set, wherein the querying the second table is performed using the processor, and the querying the first table and the querying the second table are performed without joining the first table and the second table (See column 5 lines 25-30 and column 7 lines 10-35) and ,joining using the processor the first result set and the second result set to produce a third result set (See column 6 lines 40-50);

Koo does not explicitly disclose: Receiving at least one SQL statement at a computer system wherein the at least one SQL statement is configured to operate on a first table and a second table, and the at least one SQL statement comprises an SOL statement that is configured to join the first table and the second table; at least one SQL statement is configured to operate on a first table and a second table, and the at least one SQL statement comprises an SOL statement that is configured to join the first table and the second table; automatically generating, using a processor of the computer system a set of SQL statements to query the first table and the second table wherein the set of SQL statements are based, at least in part upon the at least one SQL

statement, and returning the third result set, in response to the receiving the at least one SQL statement DiDomizio however does explicitly disclose: Receiving at least one SQL statement, at a computer system wherein the at least one SQL statement is configured to operated on a first table (See figure 8A), and a second table, and the at least one SQL statement comprises an SQL statement that is configured to join the first table and the second table (See column 10 lines 1-15) automatically generating, using a processor of the computer system a set of SQL statements to query the first table and the second table wherein the set of SQL statements are based, at least in part upon the at least one SQL statement, (See column 6 line 60- column 7 line 6) and returning the third result set, in response to the receiving the at least one SQL statement (See column 9 lines 30-45). It would have been obvious to an artisan of ordinary skill in the pertinent at the time the invention was made to have incorporated the teaching of DiDomizio into the system of Koo. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit motivation to combine these references (i.e. motivation from the references themselves). In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since DiDomizio's teaching would enable user's of the Koo system to have the tables be from unfamiliar or structured data (See DiDomizio column 2 lines 40-50). Consequently, there would have been a reasonable expectation of success since the DiDomizio reference is designed to provide

universal querying to information that is distributed throughout different systems (See title and abstract).

As for claim 117 the rejection of claim 116 is incorporated and further Koo discloses: a parent/child relationship between the first and second tables, wherein one of the first and second tables is a parent table, and if the first table is the parent table, the second table is a child table, and if the second table is the parent table, the first table is the child table (See column 4 lines 61-67).

As for claim 118 the rejection of claim 117 is incorporated and further Koo discloses: querying the parent table substitution using the set of SQL statements to produce the result set; and using the first result set in constructing a second set of SQL statements to query the child table, wherein the second set of SQL statements comprises SQL statements other than a second statement that joins the second table to another table (See column 5 lines 1-19).

As for claim 119 the rejection of claim 118 is incorporated and further Koo discloses: querying the child table using the second set of SQL statements to produce the second result set (See column 5 lines 20-30).

As for claim 120 the rejection of claim 119 is incorporated and further DiDomizio discloses the third result set depends on the querying the first table and the querying the second table (See column 10 lines 5-20 note the attributes must match).

As for claim 121 the rejection of claim 118 is incorporated and further Koo discloses: the second set of SQL statements comprises: a query statement for selecting a record having a value of a foreign key field of the second table equal to a value of a target key field in the first result set (See column 5 lines 10-20).

As for claim 122 the rejection of claim 116 is incorporated and further Koo discloses: using the first result set in constructing a second set of SQL statements to query the second table, wherein the second set of SQL statements comprises SQL statements other than a second statement that joins the second table to another table (See column 5 lines 20-30)

As for claim 123 the rejection of claim 122 is incorporated and further Koo discloses: querying the second table using the second set of SQL statements to produce the second result set (See column 5 lines 20-30).

As for claim 124 the rejection of claim 123 is incorporated and further Koo discloses: returning the third result set as a result of the query of the first and second tables (See figure 12).

As for claim 125 the rejection of claim 122 is incorporated and further Koo discloses: a query statement for selecting a record having a value of a foreign key field of the second table equal to a value of a target key field in the result set (See column 6 lines 45-67).

As for claim 126 the rejection of claim 116 is incorporated and further Koo discloses: obtaining a search specification for the query of the first and second tables, wherein the set of SQL statements comprises a query statement to select a record from at least one of the first and second tables if the record satisfies the search specification (See column 7 lines 20-35).

As for claim 127 the rejection of claim 126 is incorporated and further Koo discloses: executing the set of SQL statements to produce the third result set; and returning the third result set in response to the search specification (See figure 12).

As for claim 128 Koo discloses: a processor, a memory unit coupled to the processor (See column 3 lines 1-15) generating means uses a relationship between the first table and the second table to construct the set of SQL statements, and the set of SQL statements comprises SQL statements other than a statement that joins the first and second tables querying the first table determining means for determining if a part/child relationship exists between the first and second tables (See column 5 lines

61-67). First producing means for producing a first result set by querying the first table using the set of SQL statements (See column 5 lines 20-30);

Second producing means for producing a second result set by querying the second table using the set of SQL statements, wherein the querying the first table is performing using the processor querying the second table using the set of SQL statements to produce a second result set, wherein the querying the second table is performed using the processor, and the querying the first table and the querying the second table are performed without joining the first table and the second table (See column 5 lines 25-30 and column 7 lines 10-35) and ,joining using the processor the first result set and the second result set to produce a third result set (See column 6 lines 40-50); the generating means the determining means, the first querying means, the second querying means and the joining means reside in the memory unit;

Koo does not explicitly disclose: Receiving means for receiving at least one SQL statement, wherein the at least one SQL statement is configured to operate on a first table and a second table and the at least one SQL statement comprises an SQL statement that is configured to join the first table and the second table;

generating means for automatically generating, a set of SQL statements to query the first table and the second table wherein the set of SQL statements are based, at least in part upon the at least one SQL statement, and returning the third result set, in response to the receiving the at least one SQL statement DiDomizio however does explicitly disclose: Receiving means for receiving at least one SQL statement, wherein the at least one SQL statement is configured to operated on a first table (See figure 8A),

and a second table and the at least one SQL statement comprises an SQL statement that is configured to join the first table and the second table (See column 10 lines 1-15) generating means for automatically generating a set of SQL statements to query the first table and the second table wherein the set of SQL statements are based, at least in part upon the at least one SQL statement, (See column 6 line 60- column 7 line 6) and returning the third result set, in response to the receiving the at least one SQL statement (See column 9 lines 30-45). It would have been obvious to an artisan of ordinary skill in the pertinent at the time the invention was made to have incorporated the teaching of DiDomizio into the system of Koo. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit motivation to combine these references (i.e. motivation from the references themselves). In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since DiDomizio's teaching would enable user's of the Koo system to have the tables be from unfamiliar or structured data (See DiDomizio column 2 lines 40-50). Consequently, there would have been a reasonable expectation of success since the DiDomizio reference is designed to provide universal querying to information that is distributed throughout different systems (See title and abstract).

As for claim 129 the rejection of claim 128 is incorporated and further Koo discloses: parent table determining means for determining if one of the first and second tables is a table is the parent/child relationship exists, and configured to indicate if the first table is the parent table, the second table is a child table, and if the second table is the parent table, the first table is the child table wherein the parent table resides in the memory unit (See column 4 lines 61-67).

As for claim 130 the rejection of claim 129 is incorporated and further Koo discloses: querying means for querying the parent table using the set of SQL statements to produce the result set; and using means for using the first result set in constructing a second set of SQL statements to query the child table, wherein the second set of SQL statements comprises SQL statements other than a second statement that joins the second table to another table and the querying means and the using means reside in the memory unit (See column 5 lines 1-19).

As for claim 131 the rejection of claim 130 is incorporated and further Koo discloses: querying means is configured to query the child table using the second set of SQL statements to produce the second result set (See column 5 lines 20-30).

As for claim 132 the rejection of claim 131 is incorporated and further DiDomizio discloses wherein the result depends on the querying the first table and the querying the second table (See column 10 lines 5-20 note the attributes must match).

As for claim 133 the rejection of claim 130 is incorporated and further Koo discloses: a query statement for selecting a record having a value of a foreign key field of the second table equal to a value of a target key field in the first result set (See column 5 lines 10-20).

As for claim 134 the rejection of claim 128 is incorporated and further Koo discloses: using means for using the first result set in constructing a second set of SQL statements to query the second table, wherein the second set of SQL statements comprises SQL statements other than a second statement that joins the second table to another table (See column 5 lines 20-30)

As for claim 135 the rejection of claim 128 is incorporated and further Koo discloses: obtaining means for obtaining a search specification for the query of the first and second tables, wherein the set of SQL statements comprises a query statement to select a record from at least one of the first and second tables if the record satisfies the search specification, and said obtaining means resides in the memory unit. (See column 5 lines 20-30).

As for claim 136 the rejection of claim 135 is incorporated and further DiDomizio discloses: executing means for executing the set of SQL statements to produce the third result set; and returning means for returning the third result set in response to the

search specification, wherein said the executing means and the retuning means reside in the memory unit (See column 9 lines 23-35)

As for claim 137 Koo discloses: the generating instructions are configured to use a relationship between the first table and the second table to construct the set of SQL statements, and the set of SQL statements comprises SQL statements other than a statement that joins the first and second tables querying the first table using the set of SQL statements to produce a first result set (See column 5 lines 20-30);

First producing instructions to produce a first result set by querying the first table using the set of SQL statements to produce a first result set, second producing instructions to produce a second result set by querying the second table using the set of SQL statements the querying the first table and the querying the second table are performed without joining the first table and the second table (See column 5 lines 25-30 and column 7 lines 10-35) and, joining using the processor the first result set and the second result set to produce a third result set (See column 6 lines 40-50); a computer readable storage medium, wherein the computer program product is the computer-readable storage media (See column 3 lines 1-15).

Koo does not explicitly disclose: Receiving instructions to receive at least one SQL statement, wherein the at least one SQL statement is configured to operate on a first table and a second table and the at least one SQL statement comprises an SQL statement that is configured to join the first table and the second table generating, instructions to automatically generate a set of SQL statements to query the first table

and the second table wherein the set of SQL statements are based, at least in part upon the query, and returning instructions to return the third result set, in response to the receiving the at least one SQL statement DiDomizio however does explicitly disclose: Receiving instructions to receive at least one SQL statement, wherein the at least one SQL statement is configured to operate on a first table (See figure 8A), and a second table and the at least one SQL statement comprises an SQL statement that is configured to join the first table and second table (See column 10 lines 1-15) generating, instructions to automatically generate a set of SQL statements to query the first table and the second table wherein the set of SQL statements are based, at least in part upon the query, (See column 6 line 60- column 7 line 6) and returning instructions to return the third result set, in response to the receiving the at least one SQL statement (See column 9 lines 30-45). It would have been obvious to an artisan of ordinary skill in the pertinent at the time the invention was made to have incorporated the teaching of DiDomizio into the system of Koo. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit motivation to combine these references (i.e. motivation from the references themselves). In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since DiDomizio's teaching would enable user's of the Koo system to have the tables be from unfamiliar or structured data (See DiDomizio column 2 lines 40-50). Consequently, there would have been a

reasonable expectation of success since the DiDomizio reference is designed to provide universal querying to information that is distributed throughout different systems (See title and abstract).

As for claim 138 the rejection of claim 137 is incorporated and further Koo discloses: a parent/child relationship between the first and second tables, wherein one of the first and second tables is a parent table, and if the first table is the parent table, the second table is a child table, and if the second table is the parent table, the first table is the child table (See column 4 lines 61-67).

As for claim 139 the rejection of claim 138 is incorporated and further Koo discloses: querying instructions configured to query the parent table using the set of SQL statements to produce the result set; and using the first result set in constructing a second set of SQL statements to query the child table, wherein the second set of SQL statements comprises SQL statements other than a second statement that joins the second table to another table (See column 5 lines 1-19).

As for claim 140 the rejection of claim 139 is incorporated and further Koo discloses: wherein the querying the second table queries the child table using the second set of SQL statements to produce the second result set (See column 5 lines 20-30).

As for claim 141 the rejection of claim 140 is incorporated and further DiDomizio discloses the third result set depends on the querying the first table and the querying the second table (See column 10 lines 5-20 note the attributes must match).

As for claim 142 the rejection of claim 139 is incorporated and further Koo discloses: the second set of SQL statements comprises: a query statement for selecting a record having a value of a foreign key field of the second table equal to a value of a target key field in the first result set (See column 5 lines 10-20).

As for claim 143 the rejection of claim 137 is incorporated and further Koo discloses: using instructions configured to use the first result set to construct a second set of SQL statements to query the second table, wherein the second set of SQL statements comprises SQL statements other than a second statement that joins the second table to another table (See column 5 lines 20-30)

As for claim 144 the rejection of claim 137 is incorporated and further Koo discloses: obtaining instructions configured to obtain a search specification for the query of the first and second tables, wherein the set of SQL statements comprises a query statement to select a record from at least one of the first and second tables if the record satisfies the search specification (See column 5 lines 20-30).

As for claim 145 the rejection of claim 144 is incorporated and further DiDomizio discloses: executing instructions configured to execute the set of SQL statements to produce the third result set; and returning instructions configured to return the third result set in response to the search specification, (See column 9 lines 23-35).

As for claim 146 Koo discloses a processor to execute instructions and a memory to store the instructions (See column 3 lines 1-15): the generating instructions use a relationship between the first table and the second table to construct the set of SQL statements, and the set of SQL statements comprises SQL statements other than a statement that joins the first and second tables querying the first table using the set of SQL statements to produce a first result set (See column 5 lines 20-30);

First producing instructions to produce a first set by querying the first table using the set of SQL statements., second producing instructions to produce a second result set by querying the second table using the set of SQL statements the querying instructions to the first table and the querying instructions to the second table are performed without joining the first table and the second table (See column 5 lines 25-30 and column 7 lines 10-35) and ,joining using the processor the first result set and the second result set to produce a third result set (See column 6 lines 40-50); a computer readable storage medium, wherein the computer program product is the computer readable storage media (See column 3 lines 1-15)

Koo does not explicitly disclose: Receiving instructions configured to receive at least one SQL statement at a computer system, wherein the at least one SQL statement

is configured to operate on a first table and a second table and the at least one SQL statement comprises and SQL statement that is configured to join the first table and the second table generating, instructions to automatically generate a set of SQL statements to query the first table and the second table wherein the set of SQL statements are based, at least in part upon the at least one SQL statement, and returning instructions to return the third result set, in response to the receiving the at least one SQL statement DiDomizio however does explicitly disclose: Receiving instructions configured to receive at least one SQL statement at a computer system, wherein the at least one SQL statement is configured to operated on a first table (See figure 8A), and a second table and the at least one SQL statement comprises an SQL statement that is configured to join the first and second table (See column 10 lines 1-15) generating, instructions to automatically generate a set of SQL statements to query the first table and the second table wherein the set of SQL statements are based, at least in part upon the query, (See column 6 line 60- column 7 line 6) and returning instructions to return the third result set, in response to the receiving the at least one SQL statement (See column 9 lines 30-45). It would have been obvious to an artisan of ordinary skill in the pertinent at the time the invention was made to have incorporated the teaching of DiDomizio into the system of Koo. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit motivation to combine these references (i.e. motivation from the references themselves). In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at

the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since DiDomizio's teaching would enable user's of the Koo system to have the tables be from unfamiliar or structured data (See DiDomizio column 2 lines 40-50). Consequently, there would have been a reasonable expectation of success since the DiDomizio reference is designed to provide universal querying to information that is distributed throughout different systems (See title and abstract).

As for claim 147 the rejection of claim 146 is incorporated and further Koo discloses: a parent/child relationship between the first and second tables, wherein one of the first and second tables is a parent table, and if the first table is the parent table, the second table is a child table, and if the second table is the parent table, the first table is the child table (See column 4 lines 61-67).

As for claim 148 the rejection of claim 147 is incorporated and further Koo discloses: querying instructions configured to query the parent table using the set of SQL statements to produce the result set; and using the first result set in constructing a second set of SQL statements to query the child table, wherein the second set of SQL statements comprises SQL statements other than a second statement that joins the second table to another table (See column 5 lines 1-19).

As for claim 149 the rejection of claim 148 is incorporated and further Koo discloses: wherein querying the second table queries the child table using the second set of SQL statements to produce the second result set (See column 5 lines 20-30).

As for claim 150 the rejection of claim 149 is incorporated and further DiDomizio discloses the third result set depends on the querying the first table and the querying the second table (See column 10 lines 5-20 note the attributes must match).

As for claim 151 the rejection of claim 148 is incorporated and further Koo discloses: the second set of SQL statements comprises: a query statement for selecting a record having a value of a foreign key field of the second table equal to a value of a target key field in the first result set (See column 5 lines 10-20).

As for claim 152 the rejection of claim 153 is incorporated and further Koo discloses: using instructions configured to use the first result set to construct a second set of SQL statements to query the second table, wherein the second set of SQL statements comprises SQL statements other than a second statement that joins the second table to another table (See column 5 lines 20-30)

As for claim 153 the rejection of claim 146 is incorporated and further Koo discloses: obtaining instructions configured to obtain a search specification for the

querying of the first and second tables, wherein the set of SQL statements comprises a query statement to select a record from at least one of the first and second tables if the record satisfies the search specification (See column 5 lines 20-30).

As for claim 154 the rejection of claim 153 is incorporated and further DiDomizio discloses: executing instructions configured to execute the set of SQL statements to produce the third result set; and returning instructions configured to return the third result set in response to the search specification, (See column 9 lines 23-35).

As for claim 155 Koo discloses: a processor; a memory unit coupled to the processor (See column 3 lines 1-15) the generating module uses a relationship between the first table and a second and the set of SQL statements comprises SQL statements other than a statement that joins the first and second tables querying the first table using the set of SQL statements to produce a first result set (See column 5 lines 20-30);

A first producing module configured to produce a first result set by querying the first table using the set of SQL statements, a second producing configured to produce a second result set by querying the second table using the set of SQL statements to produce a second result set the querying instructions the first table and the querying instructions to the second table are performed without joining the first table and the second table (See column 5 lines 25-30 and column 7 lines 10-35) and ,a joining module configured to join the first result set and the second result set to produce a third

result set (See column 6 lines 40-50); the second querying module and the joining module reside in the memory unit (See column 3 lines 1-15)

Koo does not explicitly disclose: Receiving module configured to receive at least one SQL statement, wherein the at least one SQL statement is configured to operate on a first table, and a second table and the at least one SQL statement comprises an SQL statement that is configured to join the first table and the second table generating, instructions to generate a set of SQL statements to query the first table and the second table wherein the set of SQL statements are based, at least in part upon the query, and a return output data module configured to return the third result set, in response to the receiving the at least one SQL statement DiDomizio however does explicitly disclose: Receiving module configured to receive at least one SQL statement, wherein the at least one SQL statement is configured to operate on a first table and a second table (See figure 8A) and a second table and the at least one SQL statement comprises an SQL statement that is configured to join the first table and the second (See column 10 lines 1-15) generating, module to generate a set of SQL statements to query the first table and the second table wherein the set of SQL statements are based, at least in part upon the query, (See column 6 line 60- column 7 line 6) a return output data module configured to return the third result set, in response to the receiving the at least one SQL statement (See column 9 lines 30-45). It would have been obvious to an artisan of ordinary skill in the pertinent at the time the invention was made to have incorporated the teaching of DiDomizio into the system of Koo. The modification would have been obvious because the two references are concerned with the solution to problem of data

processing, therefore there is an implicit motivation to combine these references (i.e. motivation from the references themselves). In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since DiDomizio's teaching would enable user's of the Koo system to have the tables be from unfamiliar or structured data (See DiDomizio column 2 lines 40-50). Consequently, there would have been a reasonable expectation of success since the DiDomizio reference is designed to provide universal querying to information that is distributed throughout different systems (See title and abstract).

As for claim 156 the rejection of claim 155 is incorporated and further Koo discloses: a parent/child relationship between the first and second tables, wherein one of the first and second tables is a parent table, and if the first table is the parent table, the second table is a child table, and if the second table is the parent table, the first table is the child table and the parent table resides in the memory unit (See column 4 lines 61-67).

As for claim 157 the rejection of claim 156 is incorporated and further Koo discloses: a querying module configured to query the parent table using the set of SQL statements to produce the first set and a using module configured to use the first result set to construct a second set of SQL statements to query the second table, wherein the

second set of SQL statements comprises SQL statements other than a second statement that joins the second table to another table and the querying module and the using module reside in the memory unit (See column 5 lines 20-30)

As for claim 158 the rejection of claim 157 is incorporated and further Koo discloses: wherein the querying the second table queries the child table using the second set of SQL statements to produce the second result set (See column 5 lines 20-30).

As for claim 159 the rejection of claim 158 is incorporated and further DiDomizio discloses the third result set depends on the querying the first table and the querying the second table (See column 10 lines 5-20 note the attributes must match).

As for claim 160 the rejection of claim 157 is incorporated and further Koo discloses: the second set of SQL statements comprises: a query statement for selecting a record having a value of a foreign key field of the second table equal to a value of a target key field in the first result set (See column 5 lines 10-20).

As for claim 161 the rejection of claim 155 is incorporated and further Koo discloses a using module configured to use the first result set to construct a second set of SQL statements to query the second table, wherein the second set of SQL statements comprises SQL statements other than a second statement that joins the

second table to another table and the querying module and the using module reside in the memory unit (See column 5 lines 20-30)

As for claim 162 the rejection of claim 155 is incorporated and further Koo discloses: obtaining module configured to obtain a search specification for the query of the first and second tables, wherein the set of SQL statements comprises a query statement to select a record from at least one of the first and second tables if the record satisfies the search specification (See column 5 lines 20-30).

As for claim 163 the rejection of claim 162 is incorporated and further DiDomizio discloses: executing module configured to execute the set of SQL statements to produce the third result set; and returning instructions configured to return the third result set in response to the search specification, (See column 9 lines 23-35).

Response to Arguments

Applicant's arguments filed 11/10/2010 have been fully considered but they are not persuasive.

Applicant argues:

The Office Action characterizes Koo as presenting a method for optimizing a database query by analyzing the query to identify any joins within the query that are lossless and any tables of the identified joins that are eligible for removal. Koo then rewrites the query to eliminate the identified tables that are eligible for removal. Among other deficiencies of Koo, Applicants submit that given database tables, Koo's query optimization does not generate SQL statements that will be performed on the tables, as claimed. Koo's method is simply as Koo describes it, optimizing a query by identifying tables that can be removed prior to performing the query, and then rewriting the query into a simpler form. In fact, Koo is not directed toward execution of any queries, merely analysis and optimization prior to execution. Applicants respectfully submit that, among other infirmities, the connection between a received SQL statement and the claimed generating of a set of SQL statements to eliminates any potential characterization of Koo's analysis as somehow teaching, showing, or suggesting the claimed generating. This lack of teaching in Koo comes as no surprise, as Koo's analysis is not intended to generate SQL statements. On the contrary, Koo is interested in eliminating portions of a given query in order to produce an optimized query.

Thus, Applicants submit that Koo's method is complete before any queries are executed, whereas the claimed method is integrated with the execution of queries. In

other words, the domains in which Koo's method and the claimed method are relevant do not overlap. Thus, Koo's query rewriting avoids ever performing any query on tables removed by the optimization process.

Examiner responds:

Examiner is not persuaded. Initially examiner notes that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091,231 USPQ 375 (Fed. Cir. 1986). In this case Koo disclosing optimizing a query by identifying tables that can be removed prior to performing the query, and then rewriting the query into a simpler form means at least that Koo is operating on the tables to see if they are eligible for removal and the new simpler query form is a generation of a new query the distinction from the old query being which tables are used. Moreover the "Test of obviousness is not whether features of secondary reference may be bodily incorporated into primary reference's structure, nor whether claimed invention is expressly suggested in any one or all of references; rather, test is what combined teachings of references would have suggested to those of ordinary skill in art." *In re Keller*, Terry, and Davies, 208 USPQ 871 (CCPA 1981).

Applicant argues:

Applicants respectfully submit that Koo does not produce result sets from querying the tables using generated SQL statements, where the result sets are subsequently used in the performance of a join operation, as claimed. An example of Koo's method performs a rewrite of the following join query:

SELECT COUNT(*) FROM STARS ACCOUNT A, STARS.CUSTOMER C WHERE A.CUSTID = C.CUSTID AND A.BALANCE > 10 Koo 5:5-10. Koo's example join query operates on two tables, a CUSTOMER table, and an ACCOUNT table. Given the above join query, Koo performs an analysis to determine that the CUSTOMER table can be eliminated given the join conditions. See, Koo 5:11-22. After eliminating the CUSTOMER table, Koo rewrites the above query as the following: SELECT COUNT(*) FROM STARS ACCOUNT A WHERE A.BALANCE > 10 Koo 5:22-25. In other words, Koo's system rewrites the query, without the one or more tables, and without ever performing any kind of SQL query on either table.

As noted above, Koo's rewriting process does not perform any queries on the CUSTOMER or ACCOUNT tables. Thus, it must be the case that Koo fails to perform queries using any generated SQL statements. At least one reason Koo fails to teach or suggest this limitation is that the CUSTOMER table in Koo is eliminated before either the original query or the rewritten query is performed. As described above, Koo is not performing any queries on the tables, but is instead identifying which tables can be eliminated in order to rewrite the query in a simpler form. Koo's determination of which tables to eliminate does not involve generating a set of SQL statements to query a first

and second table, as claimed. Even if Koo could otherwise be successfully analogized to the claimed method, at the moment Koo eliminated any table, the analogy would fail because the claimed method performs queries on every table received.

Examiner responds:

Examiner is not persuaded. Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification. Interpretation of Claims-Broadest Reasonable Interpretation: During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 162 USPQ 541,550-51 (CCPA 1969). In this case while Koo does rewrite a query the rewriting is for the purposes of query execution and the claim limitation "result sets from querying the tables using generated SQL statements" means that we are using the generated statements (which is in the case of Koo is after tables have been removed.

Applicant argues:

Applicants respectfully submit that no part of the cited sections of Koo's method can be interpreted as producing result sets from performing any manner of SQL statements on any tables, particularly where such result sets are then used in the performance of a join operation, as claimed. As noted above, because Koo does not

perform any queries on the tables that are objects of the original query, it necessarily follows that Koo does not perform any query on the tables using generated SQL statements. In addition to citing the earlier-presented example in Koo, the Office Action cites to a section of Koo, characterized by the Office Action as presenting different kinds of joins that can be analyzed and rewritten, as purported disclosure of the claimed querying a table to produce a result set, where the query uses a set of generated SQL statements. See, Office Action, pp. 3 and 4 (citing Koo 7:10-35). Applicants submit that this section merely details which types of joins can be analyzed using Koo's method. This section of Koo is not an alternative of the above-cited example. Instead, this section presents the details of how the underlying principles of Koo's method, described earlier, operate. Thus, a mere listing of types of joins that can be analyzed by Koo's method in no way teaches or suggests any additional limitations, nor provides any further meaningful disclosure, and so, also fails to show, teach or suggest the claimed production of a result set by querying a table with a set of generated SQL statements.

Examiner responds:

Examiner is not persuaded. Examiner is not persuaded. Initially examiner notes that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case Koo disclosing optimizing a query by identifying tables that can be removed prior to performing the query, and then rewriting the query into a simpler form

means at least that Koo is operating on the tables to see if they are eligible for removal and the new simpler query form is a generation of a new query the distinction from the old query being which tables are used. Moreover the "Test of obviousness is not whether features of secondary reference may be bodily incorporated into primary reference's structure, nor whether claimed invention is expressly suggested in any one or all of references; rather, test is what combined teachings of references would have suggested to those of ordinary skill in art."

In re Keller, Terry, and Davies, 208 USPQ 871 (CCPA 1981).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIYAH S. HARPER whose telephone number is (571)272-0759. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ESH
Eliyah S. Harper
January 13, 2011

/Hosain T Alam/

Supervisory Patent Examiner, Art Unit 2166